AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

Clinical Care Standards

Osteoarthritis of the Knee Clinical Care Standard

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* An example of joint-conserving surgery is high tibial osteotomy.[1,2]

† Examples of appropriate indications for arthroscopic procedures are true mechanical locking, septic arthritis, or investigations when MRI is not possible.[3]

About the clinical care standards

Clinical care standards aim to support the delivery of appropriate evidence-based clinical care, and promote shared decision making between patients, carers and clinicians.

A clinical care standard is a small number of quality statements that describe the clinical care that a patient should be offered for a specific clinical condition. The quality statements are linked to a number of indicators that can be used by health services to monitor how well they are implementing the care recommended in the clinical care standard. A clinical care standard differs from a clinical practice guideline; rather than describing all the components of care for managing a clinical condition, the quality statements address priority areas for improvement.

Each clinical care standard intends to support:

- People to know what care should be offered by the healthcare system, and to make informed treatment decisions in partnership with their clinician
- Clinicians to make decisions about appropriate care
- Health services to examine the performance of their organisation and make improvements in the care they provide.

This clinical care standard was developed by the Australian Commission on Safety and Quality in Health Care (the Commission) in collaboration with consumers, clinicians, researchers and health organisations, many of whom participated in the Osteoarthritis Clinical Care Standard Topic Working Group. It complements existing efforts that support osteoarthritis care, and state- and territory-based initiatives.

For more information about the development of this clinical care standard, including the evidence base for the quality statements, visit **www.safetyandquality.gov.au/ccs**.

Introduction

Context

Osteoarthritis is a chronic disease of the synovial joints, resulting in pain accompanied by varying degrees of functional limitation and reduced quality of life.[4, 5] About 2.1 million Australians are estimated to have osteoarthritis, with the prevalence higher in women than men.[6] Symptoms are usually uncommon in people aged under 45, but more than 25% of people aged 65 or older report some joint symptoms.[7]

Knee osteoarthritis, also called osteoarthritis of the knee, causes a particularly high burden on patients and on the healthcare system. It is a major contributor to disability and lost productivity and is the main reason for knee replacement surgery.[8] The burden on the healthcare system is expected to increase with the ageing population.[9]

People with knee osteoarthritis typically present with pain, with or without stiffness and swelling around the joint. They often have difficulty with walking, climbing stairs, standing from a sitting position, getting in and out of cars and other everyday activities.[10] Such physical limitations often hinder a person's participation in work, leisure and social activities, and can contribute to psychological distress, including depression.[4]

Osteoarthritis is not an inevitable part of ageing and is not necessarily progressive.[4] Symptoms can be managed and the level of physical activity improved by modifying risk factors such as excessive weight. Being overweight doubles a person's risk of developing knee osteoarthritis, while obesity increases the risk more than fourfold.[11-14] Losing a moderate amount of weight can improve symptoms and the physical capability of people with knee osteoarthritis.[15]

Knee osteoarthritis can be diagnosed on clinical grounds alone. There is a poor correlation between radiological evidence of osteoarthritis and symptoms.[16] Imaging and laboratory tests are unnecessary unless alternative diagnoses are suspected, symptoms have rapidly worsened or surgery is being considered.[4, 17] If these circumstances apply, weight-bearing X-rays are an appropriate method of investigation; magnetic resonance imaging (MRI) is rarely required. Guidelines for general practitioners on MRI in acute knee injury exist, but these are unhelpful for degenerative knee pain.[18]

Current guidelines for osteoarthritis, including that of the knee, recommend conservative (non-surgical) management using a combination of non-pharmacological and pharmacological treatments.[2, 4, 19] Core non-pharmacological treatment includes patient education and self-management, exercise, and weight loss for those who are overweight.[4, 19] Conservative management is recommended at all stages of the disease.[2, 4, 19] Timely access to joint replacement or joint-conserving surgery is recommended when, and only when, conservative management no longer provides adequate pain relief or maintenance of function.[4, 5]

Arthroscopic procedures are not effective for treating knee osteoarthritis.[4, 20] In a systematic review of nine trials involving middle-aged to older patients with knee pain caused by osteoarthritis or degenerative meniscal changes, arthroscopic procedures provided an inconsequential benefit in pain relief, which was offset by increased harms, when compared with conservative management.[21]

Ongoing and effective delivery of guideline-recommended care for patients with knee osteoarthritis requires a coordinated multidisciplinary approach.[5] However, there are indications that current management of knee osteoarthritis is episodic and often falls short of best practice.[22] In the NSW Osteoarthritis Chronic Care program, almost 70% of participants on the waiting list for knee replacement surgery had no conservative

management except for medication.[23] The extent of variation in knee arthroscopy admission rates nationally suggests differences in uptake of current evidence regarding this procedure.[18]

This clinical care standard aims to improve the implementation of recommended care to ensure that patients with knee osteoarthritis receive timely assessment, optimal treatment and appropriate review, with the aim of reducing their pain and increasing their ability to participate in work, leisure and social activities.

Clinicians and health services across Australia can use this clinical care standard to support the delivery of high-quality care.

Goal of this clinical care standard

To improve the assessment and management of knee osteoarthritis to enhance a patient's symptom control, joint function, quality of life and participation in usual activities, and lessen the disability caused by the condition.

Scope

This clinical care standard relates to the care patients aged 45 years and over should receive when they have knee pain and are suspected of having knee osteoarthritis. It covers the initial clinical assessment, ongoing conservative management over the course of the condition and referral to surgery if required. This clinical care standard applies to all healthcare settings where care is provided to patients with knee osteoarthritis, including primary care, specialist care, hospital and community settings.

While relatively few younger people have osteoarthritis, prevalence rises sharply after 45 years.[7] For this reason, the scope of this clinical care standard is limited to patients aged 45 and over. This is consistent with the diagnostic criteria in the clinical guideline *Osteoarthritis: Care and management in adults*, published by the United Kingdom's National Institute for Health and Care Excellence (NICE).[4]

Rehabilitation following joint replacement surgery is outside the scope of this clinical care standard, although the principles of conservative management of knee osteoarthritis continue to apply.

Note that the terms knee osteoarthritis and osteoarthritis of the knee are interchangeable. This clinical care standard uses the term knee osteoarthritis for brevity and readability.

General principles of care

Patient-centred care

Patient-centred care is health care that is respectful of, and responsive to, the preferences, needs and values of patients and consumers.[24]

Clinical care standards support the principles of patient-centred care, namely:

- Treating patients with dignity and respect
- Encouraging patient participation in decision-making
- Communicating with patients about their clinical condition and treatment options
- Providing patients with information in a format that they understand to help them participate in decision-making.[25]

Multidisciplinary care

While many patients with knee pain will first present to a general practitioner, they are also likely to need specific types of care provided by other clinicians. In this document, the term clinician refers to any health professional (not only a doctor) who provides direct clinical care to patients. Multidisciplinary care refers to comprehensive care provided by a range of clinicians (for example, doctors, nurses, physiotherapists and other allied health professionals), from one or more organisations, who work collectively with the aim of addressing as many of a patient's health and other needs as possible.[26]

A multidisciplinary team approach is particularly important for the management of chronic diseases, such as osteoarthritis, for which patients have complex care needs. Multidisciplinary care of patients with osteoarthritis can improve health outcomes, and is a more efficient use of health resources. Planning, coordination and regular communication between clinicians are essential components of multidisciplinary care.[26]

In Australia, there are a number of government initiatives supporting multidisciplinary models of care for patients with osteoarthritis. Examples include the Chronic Disease Management – GP services on the Medicare Benefits Schedule, the Osteoarthritis Hip and Knee Service (Victoria), the Orthopaedic Physiotherapy Screening Clinics (Queensland), and the Osteoarthritis Chronic Care Program (NSW).

Carers and families

Carers and family members have an important role in the prevention, early recognition, assessment and recovery of patients' health conditions. They often know the patient very well, and can provide detailed information about the patient's history, routines or symptoms, which may assist in determining the best treatment and ongoing support.[24]

Although this clinical care standard does not specifically refer to carers and family members, each quality statement should be understood to mean that carers and family members are involved in clinicians' discussions with patients about their care, if the patient prefers carer involvement.

Using the clinical care standard

Integrated approach

Central to the delivery of the patient-centred care identified in this clinical care standard is an integrated, systems-based approach supported by health services and networks of services with resources, policies, processes and procedures.

Key elements of this approach include:

- An understanding of the capacity and limitations of each component of the healthcare system across metropolitan, regional and remote settings
- Clear lines of communication between components of the healthcare system, including primary, hospital and community services
- Appropriate coordination so that people receive timely access to optimal care regardless of how or where they enter the system.

To achieve these aims, healthcare services implementing the standard may need to:

- Deploy an active implementation plan and feedback mechanisms
- Include agreed protocols and guidelines, decision-support tools and other resource material
- Employ a range of incentives and sanctions to influence behaviours and encourage compliance with policy, protocol, regulation and procedures
- Integrate risk management, governance, operational processes and procedures, including education, training and orientation.[27]

Indicators to support local monitoring

The Commission has developed a set of indicators to support healthcare providers and local health services to monitor how well they implement the care described in the clinical care standard. The indicators are a tool to support local clinical quality improvement activities. There are no benchmarks set for any of the indicators. Healthcare providers using the indicators can compare their results against themselves during a previous period, or with other healthcare providers with whom they have made such arrangements.

Most of the data underlying these indicators require collection from local sources, chiefly through prospective collection or a retrospective chart review. Some indicators refer to 'local arrangements'. These can include clinical guidelines, protocols, care pathways or any other documentation providing guidance to clinicians on the care of patients with knee osteoarthritis.

Monitoring the implementation of the clinical care standard will assist in meeting some of the requirements of the National Safety and Quality Health Service (NSQHS) Standards. Information about the NSQHS Standards is available at **www.safetyandquality.gov.au/our-work/assessment-to-the-nsqhs-standards**.

The process to develop the indicators specified in this document comprised:

- An environmental scan of existing local and international indicators
- A prioritisation review and refinement of the indicators with a dedicated sub-committee of the Osteoarthritis Clinical Care Standard Topic Working Group, and review by the Topic Working Group.

In this document, the indicator titles and hyperlinks to the specifications are included with the relevant quality statement under the heading *Indicators for local monitoring*. Full specifications of the *Osteoarthritis of the Knee Clinical Care Standard* indicators can be found in the Metadata Online Registry (METeOR) at **http://meteor.aihw.gov.au/content/index.phtml/itemId/644256**. METeOR is Australia's web-based repository for national metadata standards for the health, community services and housing assistance sectors. Hosted by the Australian Institute of Health and Welfare (AIHW), METeOR provides users with online access to a wide range of nationally endorsed data and indicator definitions.

Supporting documents

The following supporting information for this clinical care standard is available on the Commission's website at **www.safetyandquality.gov.au/ccs**:

- A consumer fact sheet
- A clinician fact sheet
- An evidence sources document
- A link to the set of indicators to support local monitoring.

Quality statement 1

Comprehensive assessment

A patient with knee pain and other symptoms suggestive of osteoarthritis receives a comprehensive assessment that includes a detailed history of the presenting symptoms and other health conditions, a physical examination, and a psychosocial evaluation that identifies factors that may affect their quality of life and participation in their usual activities.

Purpose

To ensure a patient's diagnosis is informed by a thorough history and physical examination, and factors that may impact on the patient's ability to self-manage their condition are identified at initial assessment.[19] Early recognition of these factors also helps in developing an individualised care plan, and in identifying other care that may benefit the patient.[19]

What the quality statement means

For patients

If you have pain in your knee and other symptoms such as stiffness and swelling around the joint, your doctor or other member of your clinical team (for example, physiotherapist, nurse) carries out a thorough assessment to see if you have osteoarthritis or another condition. You are asked about how your symptoms affect your ability to do your daily activities, such as have a shower, get up out of a chair, and take part in your usual work, leisure and social activities. You are also asked about any other health conditions or social factors that might affect your ability to manage your knee pain (for example, recent life changes, being a carer for others). This information will help you and your clinicians work out the best way to manage your symptoms and help you stay active. It also helps them consider if you might benefit from a specific type of care, such as that provided by a physiotherapist, a dietitian, an occupational therapist, a podiatrist, a sport and exercise physician, a rheumatologist or an orthopaedic surgeon.

For clinicians

Carry out a comprehensive assessment of patients with knee pain and other symptoms of osteoarthritis, such as stiffness and/or swelling. Consider validated tools* to aid the assessment and to support monitoring of the condition, ensuring you tailor your selection to the patient's needs and goals. Include a detailed history of symptoms, with particular attention to pain, joint stiffness and movement. Consider whether pain may be referred from hip or spine pathology. Ask how the symptoms affect the patient's ability to do their usual daily activities and participate in work, leisure and social activities.[4, 19, 45] Include a physical examination and a functional assessment of the affected knee(s). Assess for the presence of comorbidities (for example, hypertension, obesity, depression, cardiovascular disease, renal disease or gastrointestinal disease) and any psychosocial factors that may affect the patient's quality of life and their ability to carry out their usual activities.[4, 19, 45] Assess for atypical features that may indicate alternative or additional diagnoses: a history of trauma, malignancy, prolonged morning joint-related stiffness, rapidly worsening symptoms or the presence of a hot swollen joint.[4]

For health services

Ensure systems are in place to coordinate and support clinicians to provide a comprehensive assessment of patients presenting with knee pain and other symptoms suggestive of osteoarthritis. The assessment goes beyond the presenting symptoms; it includes an assessment of other health conditions, and of the psychosocial factors that might affect the patient's quality of life and ability to do, and participate in, their usual activities. Ensure that validated assessment tools are available and used by staff to aid assessment and recording of patient-reported measures.

Indicators for local monitoring

Indicator 1a: Local arrangements to ensure that patients newly diagnosed with knee osteoarthritis have a comprehensive assessment.
METeOR link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644252

Indicator 1b: Proportion of patients newly diagnosed with knee osteoarthritis who have a comprehensive assessment.
METeOR link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644266

More information about these indicators and the definitions needed to collect and calculate them can be found in the above METeOR links.

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* A range of validated assessment tools are available. Some examples are:

- Disease-specific: e.g. Knee injury and Osteoarthritis Outcome Score (KOOS)[28,29,30] www.koos.nu; OsteoArthritis questionnaire (OA-Quest)[31,32] iha.acu.edu.au/osteo-arthritis
- Pain and function: e.g. Timed Up and Go[33,34] and 30-second chair test[33,34] www.oarsi.org/research/physical-performance-measures
- Pain: e.g. Visual Analogue Scale (VAS)[35,36], Numerical rating scale[36,37] www.aci.health.nsw.gov.au/chronic-pain/health-professionals/assessment
- Depression: e.g. Kessler (K10) psychological distress scale[38,39,40] www.beyondblue.org.au/the-facts/anxiety-and-depression-checklist-k10; Depression, Anxiety and Stress Scale 21 (DASS 21)[41] www2.psy.unsw.edu.au/dass
- Activities and Quality of Life: e.g. Workplace Activity Limitations Scale (WALS)[42,43] www.acreu.ca/research/measures.html; Assessment of Quality of Life[44] www.aqol.com.au

Quality statement 2
Diagnosis

A patient with knee pain and other symptoms suggestive of osteoarthritis is diagnosed as having knee osteoarthritis based on clinical assessment alone. X-rays are considered only if an alternative diagnosis is suspected (for example, insufficiency fracture, malignancy). Magnetic resonance imaging (MRI) is considered only if there is suspicion of serious pathology not detected by X-ray.

Purpose

To reduce the potential harm to patients from unnecessary tests and exposure to radiation.[17] There is a poor correlation between radiological evidence of osteoarthritis and symptoms.[16]

What the quality statement means

For patients

Your clinician will assess your symptoms and do a physical examination to determine whether you have osteoarthritis in your knee. This is generally enough for your clinician to make a diagnosis. Your clinician will only request further tests, such as X-rays and blood tests, if the cause of your symptoms is uncertain or your symptoms are severe or have worsened. Most people with suspected knee osteoarthritis do not need X-rays, other scans (for example, MRI) or blood tests because these will not change the diagnosis or the care they receive.

For clinicians

If the clinical signs, symptoms and findings are typical of knee osteoarthritis, make a diagnosis without further investigations.* Only request imaging and laboratory tests if there is suspicion that the diagnosis may not be osteoarthritis (for example, if the patient has a history of trauma, malignancy, prolonged morning joint-related stiffness, a hot swollen joint, or systemic symptoms).[4] Weight-bearing X-ray is preferred over MRI if there is suspicion of insufficiency fracture, worsening of symptoms or surgery is being contemplated.[4] Only request MRI if there is suspicion of serious pathology not detected by weight-bearing X-ray (unless weight bearing is not tolerated).[47, 48] MRI is not needed for diagnosis of patients with typical clinical features of osteoarthritis. Degenerative meniscal tears are common in osteoarthritic knees, both in people with and without knee symptoms, therefore their detection provides limited useful additional information.[49, 50] Computer-assisted tomography scans and ultrasounds do not have a role in the diagnosis of osteoarthritis.

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* NICE clinical guideline *Osteoarthritis: Care and management in adults*: 'Diagnose osteoarthritis clinically without investigations if a person is over 45 years and has activity-related joint pain and has either no morning joint-related stiffness or morning stiffness that lasts no longer than 30 minutes.'[4]

For health services

Ensure that systems are in place to support clinicians to diagnose osteoarthritis clinically, and to monitor the appropriateness of imaging requests for osteoarthritis.

Indicators for local monitoring

Indicator 2a: Local arrangements for clinically based diagnosis of knee osteoarthritis without the use of imaging for people with knee pain and other symptoms suggestive of osteoarthritis.
METeOR link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644277

Indicator 2b: Proportion of patients clinically diagnosed with knee osteoarthritis, without imaging.
METeOR link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644279

More information about these indicators and the definitions needed to collect and calculate them can be found online in the above METeOR links.

Quality statement 3

Education and self-management

A patient with knee osteoarthritis receives education about their condition and treatments for it, and participates in the development of an individualised self-management plan that addresses both their physical and psychosocial health needs.

Purpose

To educate and involve patients in the management of osteoarthritis so that they are able to self-manage their condition and participate in their usual life activities. Improving a patient's knowledge about their condition helps them participate in decisions about their care.[4, 19] Self-management of osteoarthritis can improve pain control and the patient's functional status.[19, 51]

What the quality statement means

For patients

You receive information from your doctor or other member of your clinical team (for example, physiotherapist, nurse, occupational therapist) about osteoarthritis and possible treatments, such as lifestyle measures, medicines and joint protection aids, which can help you make decisions about the care you need. You are also invited to develop a self-management plan with your clinicians based on your needs and preferences. Understanding more about your condition and having a self-management plan helps you to manage your symptoms so you can continue or return to your usual activities.

For clinicians

Support the patient to self-manage their condition by:

- Providing information about knee osteoarthritis and how it is treated, in a format they can understand
- Developing a plan with agreed treatment goals that helps the patient understand and manage their condition. The plan may include exercises specific to their condition, pacing activities, management of painful episodes, management of medicines, strategies for protecting the knee joints, weight loss guidance, where to find further information, and contact details of support groups
- Monitoring and adjusting the plan as the patient's condition and needs change
- Referring the patient to other clinicians, services and resources that may help them self-manage their condition.[2, 4, 19, 45, 51]

For patients who are unable to self-manage their condition, identify what additional support is needed to improve their symptoms and function, and seek assistance from appropriate carers of the patient.

For health services

Ensure systems are in place to offer patients with knee osteoarthritis information about their condition and support for self-management activities, including the development, monitoring and revision of self-management plans. Ensure that systems support patients and their clinicians to discuss the plan and any changes to it with other members of the clinical team, across different health services. Provide clinicians with training and skills (for example, in coaching patients) to support them in managing patients with knee osteoarthritis.

Indicator for local monitoring

Indicator 3: Proportion of patients newly diagnosed with knee osteoarthritis who have an individualised self-management plan.
METeOR link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644285

More information about this indicator and the definitions needed to collect and calculate it can be found online in the above METeOR link.

Quality statement 4

Weight loss and exercise

A patient with knee osteoarthritis is offered support to lose weight, if they are overweight or obese, and advice on exercise, tailored to their needs and preferences. The patient is encouraged to set weight and exercise goals, and is referred to services to help them achieve these, as required.

Purpose

To help reduce pain, improve physical function, and minimise disability, and to reduce the need for medicines or surgery.

For people with knee osteoarthritis who are overweight, weight loss reduces knee pain and improves function.[19, 51] Exercise strategies tailored to a patient's needs and their condition can also help to reduce knee pain and improve function.[19, 17, 45, 51, 52] These changes may reduce the need for medicines or surgery.[53] However, for patients who ultimately require surgery, weight loss and exercise can help to improve functional outcomes after the operation.[17, 54]

What the quality statement means

For patients

Making changes to your lifestyle might help you avoid or delay the need for medicines or surgery. Your clinicians will support you to maintain a healthy body weight and remain physically active at all times. You are encouraged to set weight and exercise goals based on your needs and preferences (for example, greater participation in an activity you like to do). If you are overweight, you receive support to lose weight, which may include referral to a dietitian or weight management program. Advice on exercise goals may include exercises to improve your fitness and to strengthen muscles around your joints. If you do need surgery, being physically active beforehand might improve your ability to recover and return to your usual activities after the operation.

For clinicians

Encourage patients to set achievable weight and exercise goals based on their needs and preferences (for example, greater participation in an activity they like to do). If the patient is overweight or obese*, encourage them to set a goal of 5% or greater weight loss over a 20-week period, as this is associated with improved function.[15] Support patients to lose weight by advising on appropriate interventions (such as dietary changes, exercise, behavioural techniques, medicines, bariatric surgery)[55], and referring them to specific services, if desired by the patient (for example, a dietitian, weight management program or exercise facilities).[4, 19] Provide advice on exercises, tailored to the patient's needs and preferences. Include information on how the patient can modify their usual physical activities to prevent symptoms worsening or aggravation of any co-morbidities.[19] Refer patients to a clinician with expertise in exercise (such as a sport and exercise physician or a physiotherapist) as appropriate.

For health services

Ensure that pathways are in place so that patients with knee osteoarthritis receive advice and encouragement on how to achieve weight loss and exercise goals. Ensure that appropriate services are available for patients to support a healthy, physically active lifestyle. These may include, but may not be limited to, dietetic services, weight management services, and exercise programs and facilities.

Indicators for local monitoring

Indicator 4a: Proportion of patients newly diagnosed with knee osteoarthritis with a documented recommendation regarding regular exercise.
METeOR link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644289

Indicator 4b: Proportion of patients with knee osteoarthritis who were overweight or obese who lost weight.
METeOR link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644293

More information about these indicators and the definitions needed to collect and calculate them can be found online in the above METeOR links.

* Overweight is defined as body mass index (BMI) of 25-30 kg/m^2; obesity is defined as BMI ≥ 30kg/m^2. Risk of developing chronic disease is increased if waist circumference is over 94cm for men and over 80cm for women.
See http://www.aihw.gov.au/body-weight/.

Quality statement 5

Medicines used to manage symptoms

A patient with knee osteoarthritis is offered medicines to manage their symptoms according to the current version of *Therapeutic Guidelines: Rheumatology* (or concordant local guidelines). This includes consideration of the patient's clinical condition and their preferences.

Purpose

To ensure medicines are used effectively for patients with knee osteoarthritis and that the risk of side effects is minimised.[19, 51]

What the quality statement means

For patients

If you need a medicine to help manage your knee pain and other symptoms of osteoarthritis, you receive one that is recommended in a current guideline. When selecting the medicine that is best for you, your clinician also takes into account your symptoms, any other health conditions you may have, other medicines you take (including complementary medicines), and your treatment preferences. You receive information about what the medicine is for, when to take it, how much to take, how long to take it for and any possible side effects.

For clinicians

When recommending or prescribing a medicine to manage knee pain and other symptoms of osteoarthritis, use the current version of *Therapeutic Guidelines: Rheumatology*[51] or a concordant local guideline.[19] The following points provide a summary.

General principles: While an analgesic medicine may be helpful for pain relief and allow function, individual needs vary and a medicine is not always necessary for effective osteoarthritis management. Use a trial-based approach to analgesic medicines, with clearly defined management goals, and regular assessment of the patient to determine if the medicine is beneficial. Wherever possible, encourage continued exercise, weight loss (if needed) and joint protection within the patient's abilities.

Topical analgesics: If an analgesic medicine is required, topical non-steroidal anti-inflammatory drugs (NSAIDs) or topical capsaicin are options for short-term pain relief, or in addition to other treatments.

Oral analgesics: If an oral analgesic is required, consider a trial of paracetamol, or an NSAID for patients at low risk of harm from NSAID use, dosed according to the guideline. Oral NSAIDs are more effective than paracetamol but have a greater risk of harm. Opioids have a very limited role in pain management for osteoarthritis because of modest benefit, if any, and significant risk of harm.

Intra-articular injections: Other treatments to consider for pain relief are intra-articular corticosteroid injections and intra-articular hyaluronan.

Involving the patient: Provide information to the patient about the recommended medicine, including the expected benefits, how to use it (or how it will be given, if an injection), how much to take, how long to take it for, possible side effects, and when treatment should be reviewed. Advise the patient to inform their other clinicians of the medicines they are taking, including any complementary medicines and vitamin supplements.

For health services

Ensure systems are in place to provide clinicians with access to the current version of *Therapeutic Guidelines: Rheumatology*[51] (or a concordant local guideline) to support the quality use of medicines. Ensure that systems are also in place to support clinicians in providing information to patients about their treatment, and that patients have access to ongoing medicines advice when needed. Ensure systems are in place to monitor prescribing patterns and measure them against the current version of *Therapeutic Guidelines: Rheumatology*[51] (or a concordant local guideline).

Indicators for local monitoring

Indicator 5a: Local arrangements to ensure that patients with knee osteoarthritis are prescribed or recommended medicines in accordance with the current *Therapeutic Guidelines: Rheumatology*.
METeOR Link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644306

Indicator 5b: Proportion of patients with knee osteoarthritis prescribed oral non-steroidal anti-inflammatory drugs (NSAIDs) with documented assessment of risks.
METeOR Link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644304

Indicator 5c: Proportion of patients prescribed opioids for longer than three months for the management of pain associated with knee osteoarthritis.
METeOR Link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644310

More information about these indicators and the definitions needed to collect and calculate them can be found online in the above METeOR links.

Quality statement 6
Patient review

A patient with knee osteoarthritis receives planned clinical reviews at agreed intervals, and management of the condition is adjusted for any changing needs. If the patient has worsening symptoms with severe functional impairment that persists despite the best conservative management, they are referred for specialist assessment.

Purpose

To monitor a patient's symptoms, function and psychosocial wellbeing so that management can be optimised, and, if symptoms worsen or a patient's care needs change, referral for specialist assessment can be arranged.[4, 17, 56]

What the quality statement means

For patients

You receive planned check-ups with your clinician so they can monitor your symptoms and wellbeing, and adjust treatment if needed. You and your clinician agree on how often you have these checks. At a check-up, you might be referred to other clinicians to ensure you are getting the best care (for example a physiotherapist, psychologist, dietitian, or specialist doctor such as a pain specialist or sport and exercise physician). If the cause of your symptoms is unclear, or there is concern about your symptoms and function despite the best care so far, you are referred for assessment to a doctor specialising in knee osteoarthritis; most often this will be a rheumatologist or an orthopaedic surgeon.

For clinicians

Decide with the patient how regularly they need a review of their osteoarthritis. Dedicate an entire appointment to the review and ensure it includes:

- A repeat history, examination and psychosocial assessment
- Monitoring of symptoms and the response to treatment, using the same validated assessment tools chosen at initial assessment
- A review of all prescribed, over-the-counter and complementary medicines the patient may be using
- An evaluation of adverse events from treatment
- Monitoring and evaluation of healthcare goals, with adjustment of previously set goals if necessary to optimise treatment
- If necessary, a discussion on, and possible start of, other treatments.[4, 45]

If the patient has severe persistent functional impairment, despite optimised conservative management and after other possible causes (such as referred pain from hip or spine pathology) have been ruled out, refer for weight-bearing X-ray imaging of the knee* (if not performed recently) and specialist assessment.

For health services

Ensure that systems are in place to support clinicians and the coordination of clinicians to monitor the symptoms, function and psychosocial wellbeing of patients with knee osteoarthritis. Provide support for timely access to specialist doctors when appropriate, for further assessment and care.

Indicators for local monitoring

Indicator 6a: Proportion of patients with knee osteoarthritis with an agreed date for a review.
METeOR Link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644312

Indicator 6b: Proportion of patients with knee osteoarthritis with evidence of pain and function assessments within the previous 12 months.
METeOR Link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644314

Indicator 6c: Proportion of patients with knee osteoarthritis who have documented pain level reduction of at least 20%, 12 months after initiation or change of treatment.
METeOR Link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644316

Indicator 6d: Proportion of patients with knee osteoarthritis with a functional limitation who have a 10% or greater improvement in function 12 months after initiation or change of treatment.
METeOR Link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644320

More information about these indicators and the definitions needed to collect and calculate them can be found online in the above METeOR links.

* Weight-bearing plain radiograph each of lateral, anteroposterior (AP), Rosenberg and skyline views.

Quality statement 7
Surgery

A patient with knee osteoarthritis who is not responding to conservative management is offered timely joint-conserving* or joint replacement surgery, depending on their fitness for surgery and preferences. The patient receives information about the procedure to inform their treatment decision. Arthroscopic procedures are not effective treatments for knee osteoarthritis, and therefore should only be offered if the patient has true mechanical locking or another appropriate indication for these procedures.†

Purpose

To ensure that patients with knee osteoarthritis who are not responding to conservative management are offered appropriate procedures[2, 4, 19, 51, 57] and information about the procedures so that they can make an informed decision about whether to undergo surgery.[4, 58]

What the quality statement means

For patients

If you have tried other treatments to manage your symptoms but are still in severe pain or having difficulty with usual activities because of your knee, your clinician might suggest you have surgery to relieve your symptoms and improve your ability to function. You receive information about the procedures suitable for you, including the risks and benefits, to help inform your treatment decision. The types of procedures offered will vary depending upon your suitability for surgery and your preferences. Knee replacement (joint replacement) is an option, as are types of surgery that do not require the replacement of your complete knee (joint-conserving surgery). In general, arthroscopic procedures are not offered as treatment for knee osteoarthritis unless you have a particular complication that may benefit from it, such as a locked (or locking) knee due to a mechanical cause.

For clinicians

Refer patients for assessment by an orthopaedic surgeon in accordance with The Royal Australian College of General Practitioners' *Referral for Joint Replacement: A management guide for health providers*.[58] Do not offer arthroscopic procedures as treatment for knee osteoarthritis.[1, 3, 4] Arthroscopic procedures can be considered if a patient with knee osteoarthritis has true mechanical locking or another appropriate indication.† To help inform their treatment decision, provide patients with clear information about suitable procedures for them, including the risks and benefits, in a format that they can understand. As some clinical conditions need special consideration in planning for anaesthesia for joint replacement surgery, a specialist anaesthesia consultation may also be required in advance to optimise planning and perioperative care.

For health services

Ensure systems are in place to provide patients with evidence-based information about the potential benefits and harms of joint-conserving and joint replacement surgery, as well as information about recovery from surgery. This information is made available in a format that patients can understand. Ensure systems are in place so that referrals of patients for knee replacement surgery are made in accordance with The Royal Australian College of General Practitioners' *Referral for Joint Replacement: A management guide for health providers*.[58] In addition, ensure that arthroscopic procedures are not performed for osteoarthritis.[3] Health services should collect data about inappropriate referrals and arthroscopic procedures as a quality improvement strategy, and measure patient-reported outcomes from all surgical interventions.

Indicators for local monitoring

Indicator 7a: Number of patients undergoing arthroscopic procedures for knee osteoarthritis.
METeOR Link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644337

Indicator 7b: Proportion of patients with knee osteoarthritis referred for consideration of surgery who were supported with non-surgical core treatments for at least three months.
METeOR Link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644349

More information about these indicators and the definitions needed to collect and calculate them can be found online in the above METeOR links.

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* An example of joint-conserving surgery is high tibial osteotomy.[1, 2]

† Examples of appropriate indications for arthroscopic procedures are true mechanical locking, septic arthritis, or investigations when MRI is not possible.[3]

Indicator to support patient experience

Patient experience is the 'sum of all interactions, shaped by an organisation's culture, that influences patient perceptions across the continuum of care'.[59] Patient experience measures can be collected as part of surveys or interviews, which aim to gauge the patient's experience of the care that they receive.

Positive patient experiences are associated with higher levels of adherence to recommended care, better clinical outcomes, improved patient safety and more efficient use of healthcare resources.[60]

Patient experience should be routinely measured across the continuum of care using a consistent and validated measurement tool.* A mechanism should be in place to analyse patients' responses and to act upon the results.

Indicator for local monitoring

Indicator 8: Local arrangements to ensure that patients' experience of the care that they receive for knee osteoarthritis is regularly measured and acted upon.
METeOR Link: http://meteor.aihw.gov.au/content/index.phtml/itemId/644358

More information about this indicator and the definitions needed to collect and calculate it can be found online in the above METeOR link.

* The Commission has developed new non-proprietary core common questions for patient experience measurement. These will be available from June 2017 from https://www.safetyandquality.gov.au/our-work/information-strategy/indicators/hospital-patient-experience/.

Glossary

Adverse event: An incident causing harm to a person receiving healthcare.[62]

Arthroscopic procedures: Procedures that involve the use of a device known as an arthroscope, which is inserted through a small cut in the skin to examine a joint, wash it out (lavage) or remove damaged tissue (debridement).[2]

Assessment: A clinician's evaluation of a disease or condition based on the patient's report of the symptoms and course of the illness or condition, on information reported by family members and other healthcare team members, and on the clinician's objective findings (obtained through tests, physical examination and medical history).[61]

Carers: People who provide care and support to family members or friends who have a disease, disability, mental illness, chronic condition, terminal illness or general frailty. Carers include parents and guardians caring for children.[27]

Clinician: A trained health professional who provides direct clinical care to patients. Clinicians include registered and non-registered practitioners working individually or in teams. They include doctors, nurses, allied health professionals, nurses' assistants, Aboriginal health workers and other people who provide health care.[27, 63]

Coaching: Helping patients gain the knowledge, skills, tools and confidence to become active participants in their care so that they can reach their self-identified health goals.[64]

Comorbidities: Coexisting diseases or conditions (other than that being treated or studied) in an individual.[65]

Complementary medicines: These include products containing herbs, vitamins, minerals, nutritional supplements, homoeopathic medicines, aromatherapy oils, and traditional Chinese medicines. Also called herbal, natural and alternative medicines.[66]

Conservative management: Non-surgical management of a condition; for knee osteoarthritis this includes activities such as patient education and self-management, weight loss and exercise (non-pharmacological interventions), and use of medicines such as analgesics and non-steroidal anti-inflammatory drugs (pharmacological interventions).[22]

Daily activities: Tasks performed by a person in a typical day to allow independent living. Basic activities include eating, dressing, hygiene and mobility. Also known as activities of daily living.[67]

Functional assessment: The evaluation of an individual's mobility and ability to carry out specific physical activities using a standardised patient-reported questionnaire or a test performed in a clinical setting (for example, timed walking test).

Health service: A service responsible for the clinical governance, administration and financial management of unit(s) providing health care. A service unit involves a grouping of clinicians and others working in a systematic way to deliver health care to patients and can be in any location or setting, including pharmacies, clinics, outpatient facilities, hospitals, patients' homes, community settings, practices and clinicians' rooms.[27]

Insufficiency fracture: A fracture that can occur when normal stress is placed on an abnormal bone, for example if affected by osteoporosis. Untreated it can result in premature or accelerated osteoarthritis.

Joint protection: Strategies or devices used to limit strain on a joint such as restrictions on high-impact activities or the use of walking aids, braces, and appropriate footwear.

Locked or locking knee: When the leg becomes stuck in a position and cannot be straightened or bent. Mechanical or true locking is when something physically stops the knee from moving (for example, loose fragment of bone, meniscal tear).[68] Pseudo-locking is more common and is when the knee cannot be fully extended because of swelling or pain.

Malignancy: Cancer found in an organ or tissue such as the bone, which can spread through the tissue and to other parts of the body.

Medicine: A chemical substance given to help prevent, cure, control or alleviate disease, or improve the physical or mental welfare of people. Prescription, non-prescription and complementary medicines, regardless of administration route (for example, oral, intravenous, intra-articular), are included.[27] Also called pharmacological intervention.

METeOR: METeOR (Metadata Online Registry) is Australia's web-based repository for national metadata standards for health, housing and community services statistics and information. Hosted by the Australian Institute of Health and Welfare (AIHW), METeOR provides users with a suite of features and tools, including online access to a wide range of nationally endorsed data and indicator definitions. See meteor.aihw.gov.au.

Multidisciplinary care: Care involving a range of clinicians (for example, doctors, nurses, physiotherapists and other allied health professionals) from one or more organisations, working together to deliver comprehensive care that addresses as many of a patient's health and other needs as possible.[26]

Osteoarthritis: A clinical syndrome of joint pain accompanied by varying degrees of functional limitation and reduced quality of life. Pain, reduced function and effects on a person's ability to carry out their daily activities can be important consequences. It is characterised pathologically by localised loss of cartilage from the end of the bones (articular cartilage), inflammation and changes to bone and other joint structures.[4]

Osteotomy: A joint-conserving procedure that corrects or improves limb malalignment.

Pacing: Incorporating intermittent exercise sessions and periods of rest into the day's activities.[4]

Pain management: Putting in place strategies to address a patient's individual pain using medicinal, physical and cognitive therapies. For people with osteoarthritis, this may include pain relief medication such as analgesics and non-steroidal anti-inflammatory drugs (NSAIDs), specific exercises, cognitive behavioural therapy or other forms of psychological management.

Primary care: The first level of care or entry point into the healthcare system, such as general practice clinics, community health practices (for example, clinics, outreach or home visiting services), ambulance services, pharmacists, or services for specific populations (for example, Aboriginal or refugee health services).

Psychosocial assessment: An evaluation of a person's mental health, social wellbeing, and perception of their ability to function in the community.[61]

Quality of life: The general wellbeing of a person in terms of health, comfort, functional status and happiness.

Risk factor: A characteristic, condition or behaviour that increases the possibility of disease, injury, or loss of wellbeing.[69]

Side effect: An unintended effect from a medicine or treatment.[70]

Self-management: A person's management of their healthcare needs on a day-to-day basis, which involves making informed decisions about their care.

Self-management plan: A written agreement between a patient and their clinicians to manage day-to-day health. This information is identified in a health record.

System: The resources, policies, processes and procedures that are organised, integrated, regulated and administered to provide health care. Systems enable the objectives of healthcare standards to be accomplished by addressing risk management, governance, operational processes and procedures, implementation and training, and by influencing behaviour change to encourage compliance.[27]

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Available resources

This clinical care standard is available on the Commission's website at www.safetyandquality.gov.au/ccs. The following supporting information is also available:

- A consumer fact sheet
- A clinician fact sheet
- An evidence sources document
- A link to the set of indicators to support local monitoring.

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